

# **Takoma Metro Financial Projections**

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This report addresses financial projections made as part of the Takoma Metro Joint Development Application. The areas covered are cost estimates for replacing transit facilities at the Takoma Metro station and revenue estimates related to ridership generation.

## **Replacement Facility Estimates**

With the assistance of a professional construction cost estimator, I reviewed EYA's Preliminary Budget Estimate of Land Development Cost for the WMATA Replacement Facilities, as revised on 05/23/06. My findings are that the plans the estimates were based on were not detailed, the estimated costs are significantly out of date, and major costs elements were omitted from the estimates. My very conservative estimates are as follows:

Assuming construction in 2007, the cost for replacing the transit facilities with components including a 75-space surface parking lot would be at least \$3.6 million. The cost for replacing the transit facilities with components including a two-level 133-space parking garage would be at least \$7 million.

Missing from EYA's and my cost estimates are estimates for the general contractor and general conditions, contingency funds (except for an unsuitable soils contingency, which I included), and significant utility relocation or handling of hazardous materials. The estimate for the two-level parking garage does not include a decorative facade, which would likely be required (as the site is in an historic district and would be adjacent to attractive new development). Also, language is included in EYA's estimate noting that "Final grades for the site had not been determined at the time this budget was generated. All earthwork quantities or estimates and subject to change pending final engineering."

It is possible that a three level parking garage will ultimately be required at the site. If the same cost per space figure for a 150 space garage is used as that for the 133 space garage (\$25,400 per space), replacement transit facilities with a three level parking garage would cost \$7.4 million. Again, that is without the missing items listed above, including the decorative facade.

Attachment A includes a more detailed discussion of the potential construction costs. I would be happy to review these estimates with construction cost estimators from WMATA. My suspicion is that my revised estimates are quite low, given all of the exclusions listed above. In addition, it is probable that construction would not occur in 2007 because of the time required for the multiple development review processes. In that case, factoring an additional 13% annual increase on construction costs would be required.

### **Joint Development Ridership Generation Numbers**

In determining the amount of revenue that could be generated from a joint development project, WMATA calculates the funds from expected new Metro fares from new residents on a joint development parcel minus the costs of any parking revenue that may be lost due to a reduction in parking facilities at the site.

For the Takoma Metro project, ridership generation figures appear to be projected at a very high level for (what was then expected to be) 93 townhouses on the site. The projections show that during weekday peak periods (morning and afternoon), each unit would generate 3.9 one-way trips on Metro and 2.6 one-way trips not on Metro. A chart that shows the estimated trips per unit is included in Attachment B.

These projections expect, on average, that every unit, every weekday, would have two people going to and from work on Metro and another person traveling to and from somewhere else not on Metro, and one of them starting another trip also during the peak period. The people in this same unit would also be making 2.5 trips by Metro and 1.7 trips by another mode during non-peak hours on the same day, every weekday. In total, each unit is estimated to average 10.7 trips every weekday either to or from the townhouse development.

Since the average persons per household rate in the EYA townhouses is likely to be under two and the residents will probably own automobiles (since the townhouses each have a two-car garage), these ridership generation numbers strain credulity. No source is given for the traffic generation factor for these townhouses.

Unless justification for these traffic generation rates can be provided, a more accurate figure would probably be about one-third less than the figure that is shown. Expected annual Metro revenue from the project would then drop from \$310,492 to approximately \$208,500.

The assumption of the revenue generation worksheets is that the persons moving into these townhouses have not used Metro in the past from a different location so that 60% of the townhouse residents' total trips are new trips to the Metro system. Although this appears to be the standard way WMATA calculates revenue from Joint Development projects, that estimate may also be high.

The revenue worksheets for the EYA development use old parking meter fares to calculate lost parking revenue for the Takoma Metro if the parking lot were reduced to 75 spaces. In addition, calculations of the fairbox revenue from Metro ridership generated by the existing parking lot was based on the spaces being used once for seven hours per day, rather than recognizing that each parking space generates multiple trips because it is a short-term only parking lot. These figures should be revised and should be presented for Option A with the 75 space lot and Option B with a 128 space lot.

*Memo from Suzanne Ludlow*  
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The revenue worksheets do not provide an opportunity to determine lost Metro revenue from riders who are discouraged from using the Metro system due to loss of drop off locations, reduced access for handicapped patrons, reduced bicycle facilities or other transit reductions not related to a reduction in the number of parking spaces. There is also no opportunity to calculate the loss to Metro of joint development that precludes construction of additional bus bays to serve increased demand for bus service. One additional bus route would add more Metro riders to the Metro system than many joint development projects, including this one.

cc: Takoma Park City Council  
B. Matthews, City Manager

## Attachment “A”

### PROJECTED LAND DEVELOPMENT COSTS REPLACEMENT OF TAKOMA METRO TRANSIT FACILITIES

*Following is a review of EYA's Preliminary Budget Estimate of Land Development Cost for the WMATA Replacement Facilities, as revised on 05/23/06.*

EYA's projected costs for replacement facilities for Option A (with a 75-space parking lot): **\$2,255,189 plus soft costs of \$338,278 to equal \$2,593,468.** With Add Alternate #1 and Deduct Alternate #3, EYA's projection would total **\$2,935,575.**

Review of the EYA projections for Option A revealed the following:

The cost estimates, using the same figures, were first included in budgets dated November, 2005. A footnote notes that “This budget is based on current pricing. No escalation is budgeted. However, it is reasonable to assume escalation of approximately 3-5% per year.” According to construction cost estimators, that escalation rate may have been good five or six years ago, but recently construction cost escalation rates have been in the 13% per year category. \$2,255,189 plus a 13% increase for each of two years (assuming it will be another year before construction could begin) equals \$2,879,651. If the soft costs only increased 5% per year, making them \$372,951, the total would be: \$3,252,602.

The pricing appears to be at the level of subcontractor pricing. Missing from the budget are estimates for the general contractor and general conditions. No contingency funds are listed, with the exception of Add Alternate #1: \$398,791 for an unsuitable soils contingency. (With an escalation of 5% for two years, the amount would be \$439,667.) Nothing is listed related to possible significant utility relocation or handling of hazardous materials. Footnotes qualify several components of the estimate (in categories with estimates totaling \$683,320), stating that, “Final grades for the site had not been determined at the time this budget was generated. All earthwork quantities are estimates and subject to change pending final engineering.” Many of the items in the backup budget are listed as “ls” or “lump sum” estimates. This coding is often an indication that the estimate is simply a guess.

A construction-related Deduct Alternate #3 is listed at (\$56,684). With a 13% escalation rate for two years, the deduct would be \$72,380.

It is reasonable to assume that the Add Alternate #1 and Deduct Alternate #3 would be included in a final plan. **Without including the needed funds for general contractor, general conditions and contingencies, a better current estimate for Alternative #1 would be \$3,252,602 plus \$439,667 minus \$72,380, or \$3,619,889.**

EYA's projected costs for replacement facilities for Option B (with a two-level parking garage, in place of the 75-space surface parking lot): **\$5,327,193**. With Add Alternate #1 and Deduct Alternate #3, EYA's projection would total **\$5,669,300**.

Review of the EYA projections for Option B revealed the following:

These cost estimates were revised 02/01/06, changing a number of the figures from the budget dated November, 2005. In providing some escalation estimates, prices that continued to be the same as those in the November, 2005 budget were increased by 13% for two years for construction materials and 5% for two years for soft costs. Figures that appear to have been updated in February were increased by 10%, then 13%, or 4% and 5%, as appropriate.

Again, the pricing appears to be at the level of subcontractor pricing. Missing from the budget are estimates for the general contractor and general conditions. No contingency funds are listed. Some items are underpriced or in error in the backup material. For example, parking equipment, budgeted at \$15,000, is more likely to be \$45,000. Fire sprinklers are missing entirely from the budget. The elevator shaft will need to be sprinklered and fire standpipes will be needed in the stairwells. The speed of the elevator is probably listed in error—rather than 350 feet/minute, it is more likely 150 feet/minute. Again, many of the items in the backup budget are listed as “ls” or “lump sum” estimates. This coding is often an indication that the estimate is simply a guess.

It is unlikely that a parking structure without a decorative exterior finish would be allowed at this location. The planned facades and selling prices of the townhouses and the location of the site within an historic district mean that the budget should include pricing for a decorative facade.

**Without including the needed funds for general contractor, general conditions and contingencies, sprinkler, or decorative exterior, a better current estimate for Add Alternate #2 alone is: \$2,992,347 for construction costs and \$389,378 for soft costs for a total of \$3,381,725. In total, a better estimate for Option B would be \$3,619,889 plus \$3,381,725 or \$7,001,614.**

## Attachment “B”

### Joint Development Ridership Generation Numbers

Calculations in the worksheet show the following trip generation figures and Metro ridership numbers for a development of 93 townhouses at the Takoma Metro. (Calculations for person trips per unit is the number divided by 93.)

	Person Trips Generated	Person Trips Per Unit	Metro One- Way Trips (60% of Total; new transit trips only)	Metro One-Way Trips Per Unit	Non- Metro Trips Per Unit
Weekday Peak Period	610	6.6	366	3.9	2.6
Weekday Off- Peak Period	388	4.2	233	2.5	1.7
Total Weekday	998	10.7	599	6.4	4.3
Saturday All Day	859	9.2	615	6.6	2.6
Sunday All Day	734	7.9	440	4.7	3.2

No source is given for the trip generation factor for these townhouses. These numbers are hard to believe unless the average persons per household figure is greater than 3. More likely, given the style of the townhouses, the average persons per household figure would be just under 2.

Revenue figures for the projected number of Metro trips is considered revenue for the joint development project. The total amount projected for one year of development ridership revenue is \$310,492.

If the trip generation figures were reduced by one-third, the average weekday trip number would be 7.2 trips per unit. The Metro trip number would be 4.3. This is still a large number, given that people are likely to take vacations, attend conferences, work at home, etc. some of the time. But, it allows for two people per unit to ride on Metro in the morning and return in the evening. If this factor were determined to more accurate, this would reduce Metro revenue to approximately \$208,500 annually.